

Scott M. Matheson  
Governor

STATE OF UTAH  
DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL HEALTH

150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500



Kenneth Lee Alkema, Director  
Room 474 801-533-6121

James O. Mason, M.D., Dr.P.H.  
Executive Director  
801-533-6111

August 18, 1983  
533-4145

DIVISIONS

Community Health Services  
Environmental Health  
Family Health Services  
Health Care Financing

OFFICES

Administrative Services  
Community Health Nursing  
Management Planning  
Medical Examiner  
State Health Laboratory

Mr. Robert Roggenthen  
Project Manager  
Western States Minerals Corporation  
4975 Van Gordon Street  
Wheat Ridge, Colorado 80033

Re: Solid Waste Plan Approval

Dear Mr. Roggenthen

On August 9, 1983, our office received a request for a solid waste plan approval for the Drum Mine site in Millard County. We have reviewed the proposed plan and hereby approve it on condition that the landfill be operated in accordance with your submitted plan and the Utah Code of Solid Waste Disposal Regulations, including but not limited to:

1. No hazardous waste as defined by the Utah Hazardous Waste Management Regulations, shall be disposed of in this landfill.
2. Provisions shall be made to control blowing debris.
3. A minimum of 6" of cover shall be placed on the waste each time waste is placed in the landfill.

Periodic compliance inspections will be conducted by the Utah State Department of Health and/or the Central Utah District Health Department.

If you require further information please let us know.

Sincerely,

Dale D. Parker, Ph.D.  
Executive Secretary  
Utah Solid and Hazardous Waste  
Committee

cc: Bruce Hall, Central Utah District Health Dept., Nephi  
Jerold Finlinson, Central Utah District Health Dept., Delta

KMN:lae  
1701

M/027/007

DOGMI  
MINERALS PROGRAM  
FILE COPY

MARCH 16, 1989

D. WAYNE HEDBERG  
MINED LAND RECLAMATION PROGRAM  
3 TRIAD CENTER SUITE 350  
SALT LAKE CITY, UTAH  
84180-1203

RECEIVED  
MAR 20 1989

DIVISION OF  
OIL, GAS & MINING

DEAR WAYNE,

ENCLOSED IS A COPY OF THE "SOLID WASTE  
APPROVAL" ISSUED BY THE DEPT OF HEALTH.

THE PRESENT AREA OF SOLID DISPOSAL HAS  
BEEN COVERED AS PER REGULATIONS AND  
ALL FUTURE AREAS WILL BE MAINTAINED  
AS PER GUIDELINES SET FORTH IN THE  
UTAH CODE OF SOLID WASTE DISPOSAL REGULATIONS.

IF YOU HAVE ANY QUESTIONS PLEASE GIVE ME  
A CALL.

R. L. Moore.  
Project Mgr.  
Jumbo Mining

**Reclamation Estimate for Topsoil Deficiency  
at the Western States Minerals Drum Mine**

**Prepared By  
Utah State Division of Oil, Gas and Mining  
March 27, 1989**

Area	Quantity	Unit	\$/Unit	Total Cost (\$)
Drum Mine Pits	12	Acres	229	2,700
Heap Leach Pads (after grading to 2h:1v)*	41	Acres	229	9,400
Waste Dumps (after grading to 2h:1v)	49	Acres	229	11,200
Facilities	40	Acres	229	9,200
	-----	-----		-----
Total	142	Acres		32,500
Add Contingency (10%)				3,300
				=====
TOTAL RECLAMATION COST (1989 Dollars)				35,800

Soil Amendment Cost per Acre	Quantity	Unit	\$/Unit	Total Cost (\$)
<b>Bare Costs</b>				
Fertilizer (18-46-0)	100	Pounds	0.25	25
Native Hay Mulch	2	Tons	50	100
				-----
Subtotal				125
<b>Application Costs</b>				
Native Hay Mulch (spread by hand)	3.0	Hours	24	72
Native Hay Mulch (disc into ground)	0.3	Hours	67	20
Fertilizer (broadcast by hand)	0.5	Hours	24	12
				-----
Subtotal				104
Total Revegetation Cost per Acre				229

\* Note: There are 43.5 acres (after grading to a final slope of 2h:1v) of heap leach pads. 2.5 of these acres will be covered with available topsoil -- 2,000 cubic yards salvaged -- at a depth of 6 inches.

**Reclamation Estimate for Topsoil Deficiency  
at the Western States Minerals Drum Mine**

**Prepared By  
Utah State Division of Oil, Gas and Mining  
March 27, 1989**

Area	Quantity	Unit	\$/Unit	Total Cost (\$)
Drum Mine Pits	12	Acres	229	2,700
Heap Leach Pads (after grading to 2h:1v)*	41	Acres	229	9,400
Waste Dumps (after grading to 3h:1v)	62	Acres	229	14,200
Facilities	40	Acres	229	9,200
	-----	-----		-----
Total	155	Acres		35,500
Add Contingency (10%)				3,600
				=====
TOTAL RECLAMATION COST (1989 Dollars)				39,100

Soil Amendment Cost per Acre	Quantity	Unit	\$/Unit	Total Cost (\$)
<b>Bare Costs</b>				
Fertilizer (18-46-0)	100	Pounds	0.25	25
Native Hay Mulch	2	Tons	50	100
				-----
Subtotal				125
<b>Application Costs</b>				
Native Hay Mulch (spread by hand)	3.0	Hours	24	72
Native Hay Mulch (disc into ground)	0.3	Hours	67	20
Fertilizer (broadcast by hand)	0.5	Hours	24	12
				-----
Subtotal				104
Total Revegetation Cost per Acre				229

\* Note: There are 43.5 acres (after grading to a final slope of 2h:1v) of heap leach pads. 2.5 of these acres will be covered with available topsoil -- 2,000 cubic yards salvaged -- at a depth of 6 inches.

March 27, 1989

TO: Holland Shepherd, Soils Specialist  
FROM: Scott Johnson, Reclamation Engineer *Scott*  
RE: Revision of the 2-28-89 memo concerning the Topsoil  
Deficiency at the Drum Mine Site, Western States Minerals  
Corporation, M/027/007, Millard County, Utah

On November 28, 1983, final approval was issued to Western States Minerals for an 88 acre gold mining operation -- the Drum Mine in Millard and Juab Counties. In 1985, the site of the operation was increased to 144 acres. The Division currently holds a surety bond for \$264,080.

The operator committed to salvaging 56,200 cubic yards of topsoil during mining operations. Unfortunately, only 2,000 cubic yards were salvaged.

The waste slopes are currently at the angle of repose (37 degrees). Grading to a 2h:1v slope (27 degrees) will disturb 7.5 additional acres. Grading to a 3h:1v slope (18 degrees) will disturb over 22 additional acres. Attached are two separate breakdowns --one each for the 2h:1v slope and the 3h:1v slope -- of projected costs for amending the material with native hay mulch and fertilizer.

jb  
Attachment  
cc: Lowell Braxton  
Wayne Hedberg  
MN17/34